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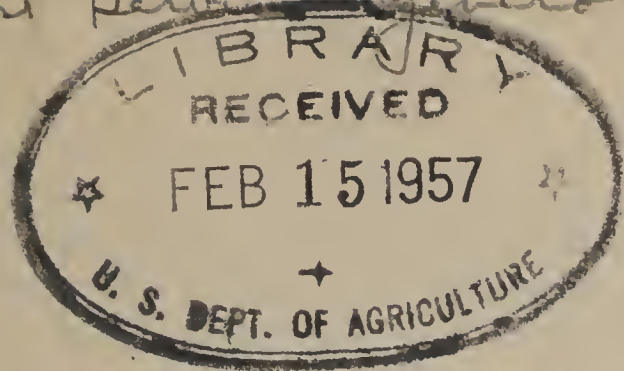
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LETTER TO THE SECRETARY OF AGRICULTURE

REGARDING

FOREST GROWTH AND TIMBER CONSUMPTION.

ON BOARD S. S. ALLER,
April 5, 1893.

DEAR SIR: Just as I was starting on my journey for the purpose of collecting an exhibit for the World's Fair, illustrative of the methods employed in German Forest Departments, a friend handed me an article published April 1 in the *Evening News* of Washington, over the signature of Henry Gannett, the Chief Geographer of the U. S. Geological Survey, in which the writer undertakes to show that efforts to bring about a more conservative and rational forest policy in the United States are unnecessary, because the relations of forest growth to climatic, soil, and water conditions are presumably of no practical significance, and because in his opinion the timber-growth in the United States is certainly renewing itself much faster than it is being consumed.

Lest the assertions of this writer be given circulation without contradiction and thereby assume the dignity of authoritative statement, which may to some render it doubtful whether the work of the Forestry Division or of the American Forestry Association has been directed in the right channel, I take the liberty of addressing this letter to you, to be published if you see fit. The official position which I hold renders it incumbent upon me to arrest, so far as I may be able to do so, the promulgation of such false statements and inferences as are contained in Mr. Gannett's article; and, since the tendency of the article is undoubtedly to throw discredit on the work of the forestry movement, and of the Forestry Division in particular, justice to them and to the Division seems to require that public refutation be made.

That there is a certain amount of truth in Mr Gannett's statements and arguments makes them only the more dangerous, for this little truth hides from ready discovery the misstatements and the flaws in the argument, and the public—not over critical—too readily inclines under their authority to erroneous conclusions. In the case of Mr Gannett's statistics, the misfortune is that they can not indeed be met positively with absolutely correct data on the other side, but only negatively with the certainty of their incorrectness.

Briefly, regarding the status of our timber supply, Mr. Gannett states that the wooded area of the United States covers approximately 1,113,000 square miles

(712,320,000 acres) ; that each acre produces annually 40 cubic feet of wood ; that we consume annually between 20 billion and 24 billion cubic feet of wood (accepting the estimate made by the Forestry Division) ; that, therefore, no shortage is to be feared, but that an overproduction of from 6 billion to 10 billion cubic feet of wood takes place on this area.

Mr Gannett has become more conservative regarding the forest area than he has been in former statements. He has asserted that 50 per cent of the United States is wooded ; he now comes down to 37 per cent. The Forestry Division, by correspondence with well-informed residents in each State some years ago, ascertained the area under forest to be below 500,000,000 acres. But we may readily concede the larger area, simply remarking by the way that the failure to arrive at more certain figures is perhaps chargeable to Mr Gannett's voice in shaping the policy of the last Census, for he it was who objected to the present writer's contention that it would be proper for the Census to gather forestry statistics.

As far as Mr Gannett's estimates and calculations of woodland areas are concerned, they are wholly irrelevant to the question at issue, namely, the question of timber supply ; for he overlooks entirely the character of such wooded lands as timbers producers. The merest tyro in forestry matters, or any observant logger or timber looker, will be able to point out to Mr. Gannett the difference between waste brush lands, such as to my own knowledge are figuring in the estimates of the Geological Survey as woodland, and timber-producing forest growth. The one is occupied by woody growth, to be sure, but of kinds which do not grow to useful size or useful quality and which prevent by their very existence the occupation of the area by desirable timber-producing kinds, becoming thus a positive hindrance to useful forest growth. Here is one considerable element of uncertainty which Mr. Gannett entirely overlooks, thereby exposing an utter lack of knowledge regarding timber production. Again, the merest tyro in the science of wood growth is well aware that 40 cubic feet of annual growth of such character as enters into our wood consumption, and to which the accepted estimate of consumption of 20 billion feet refers, has nowhere been known, at least in the temperate zones, and, as an average, over an area of more than a million acres.

With more knowledge than Mr. Gannett in these matters, I venture to say that his figure exceeds at least ten times the actuality. How he arrived at his extravagant figures I am at a loss to understand. Since this question of wood growth per acre per year is of considerable general interest, I will explain its conditions more fully and cite statistics of more than usual reliability, which are fortunately available to me.

In the well-managed forests of Prussia (some 35,000,000 acres), largely stocked on poor land, the average total production of wood per acre for a long series of years has not been more than 21 cubic feet, but this includes branch wood, brush, and roots, which are not used in our country. Of this only 14 per cent, or hardly 3 cubic feet, represents material fit for the industrial uses ; and we should add in the United States firewood is also made from such material. In the Government forests of Prussia (some 8,000,000 acres), exemplary in their management, the production reaches nearly 6 cubic feet. The highest wood production in German forests is reported from Baden (over only 4,330,000 acres of forest) with somewhat over 50 cubic feet of wood per acre per year. Assuming also a larger per cent of sizeable timber, namely 20 per cent, we would here find the annual production

per acre of such material as we are in the habit of using at the rate of 10 cubic feet per acre. Competent writers on the subject, who believe that the Government reports understated the annual growth, have calculated the same to be as high as 55 cubic feet per acre (see report of Forestry Division, 1886, p 184), of which they assume 27 per cent to represent wood over 3 inches in diameter; even this larger figure would bring the product of sizeable wood to less than 15 cubic feet per year. And I repeat what is well known, that in the United States we hardly use the smaller sizes even for firewood.

To come now to more familiar measurements, we can figure out the possibilities or probabilities in the following manner, leaning toward extravagance rather than conservatism: Any lumberman acquainted with the various forest regions of the United States will admit that, leaving out the exceptional conditions on the Pacific coast, a cut of 20,000 feet (board measure) per acre from our virgin forests would be an absurdly large average estimate; this would represent, with excellent practice in the preparation of the material, say 2,000 cubic feet of round forest-grown timber, and since the trees cut to yield such material are at least 150 years old—they are in reality mostly over 200 years—the annual production would appear under such conditions as 14 cubic feet per acre per annum, or about as much as the most advantageous results reported from well-managed German forests.

Apply this most extravagant figure to the area as given by Mr. Gannett, and we find that our consumption at present is from 10 billion to 14 billion cubic feet in excess of what the area could possibly produce as an annual crop; or that we are cutting into our capital to the extent of more than 50 per cent of our consumption, and not, as Mr. Gannett would have it, that we are laying up for the future, which, by the way, increases the demands for wood material at the rate of more than 35 per cent every decade.

The above statements show clearly how utterly untenable is Mr. Gannett's position, and how evidently lacking he is in knowledge of the subject he discusses. Regarding his knowledge of the relation of forest cover to climate, soil, and water-flow, the same lack of familiarity with the real facts and their significance is apparent. As these will be fully brought out in a publication of the Forestry Division (Bulletin 7) now in press, I will forego arguments in proof of this accusation, in order not to lengthen this letter.

One can not but deeply regret that men whose position before the public imposes upon them the responsibility of leading public opinion intelligently and upon the basis of well-established facts should thus be found ignoring their responsibility. I am encouraged to hope, however, that your well-known policy regarding the rational and conservative use of our forest resources and the extension of forest areas where desirable will be strengthened rather than weakened by such groundless and unwarranted assertions by advocates of a policy of *laissez-faire* in this matter.

Respectfully yours,

B. E. FERNOW,
Chief of Forestry Division.

Hon. J. STERLING MORTON,
Secretary of Agriculture.

